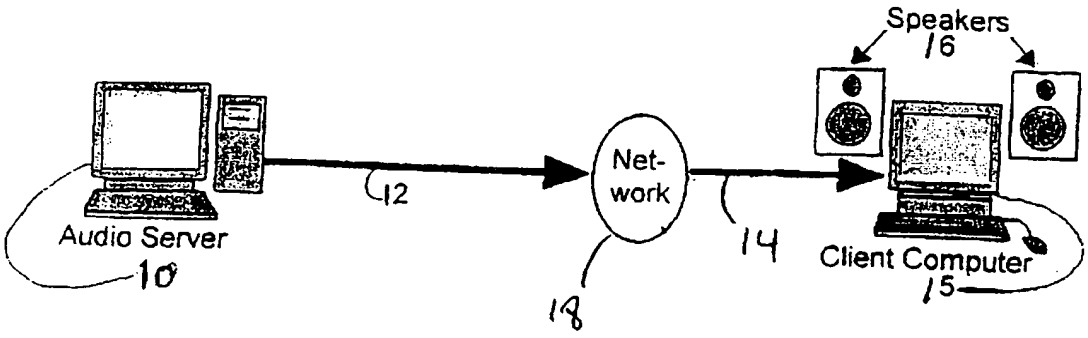

Fig. 1 (Prior Art)

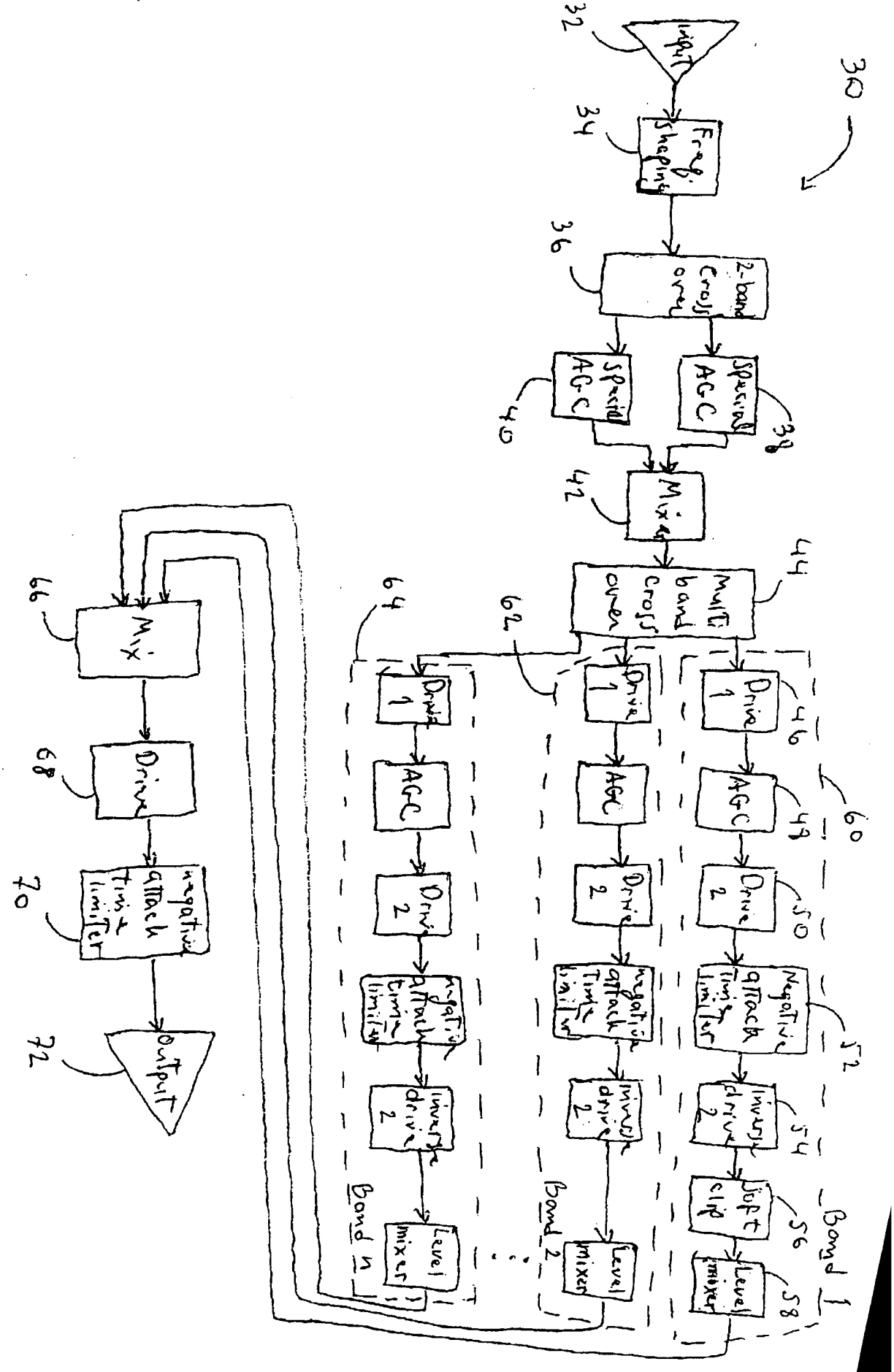
30
32
Input
34
Freq. shaping
36
2-band cross over
Special AGC
38
40
Mix
42
44
Multi band cross over
Band 1
Band 2
Band n
60
62
64
Drive 1
AGC
Drive 2
Negative attack limiter
Inverse drive 2
Level mixer
46
49
50
52
54
56
58
Dist clip
66
Mix
68
Drive
70
Negative attack limiter
72
Output

Fig. 2

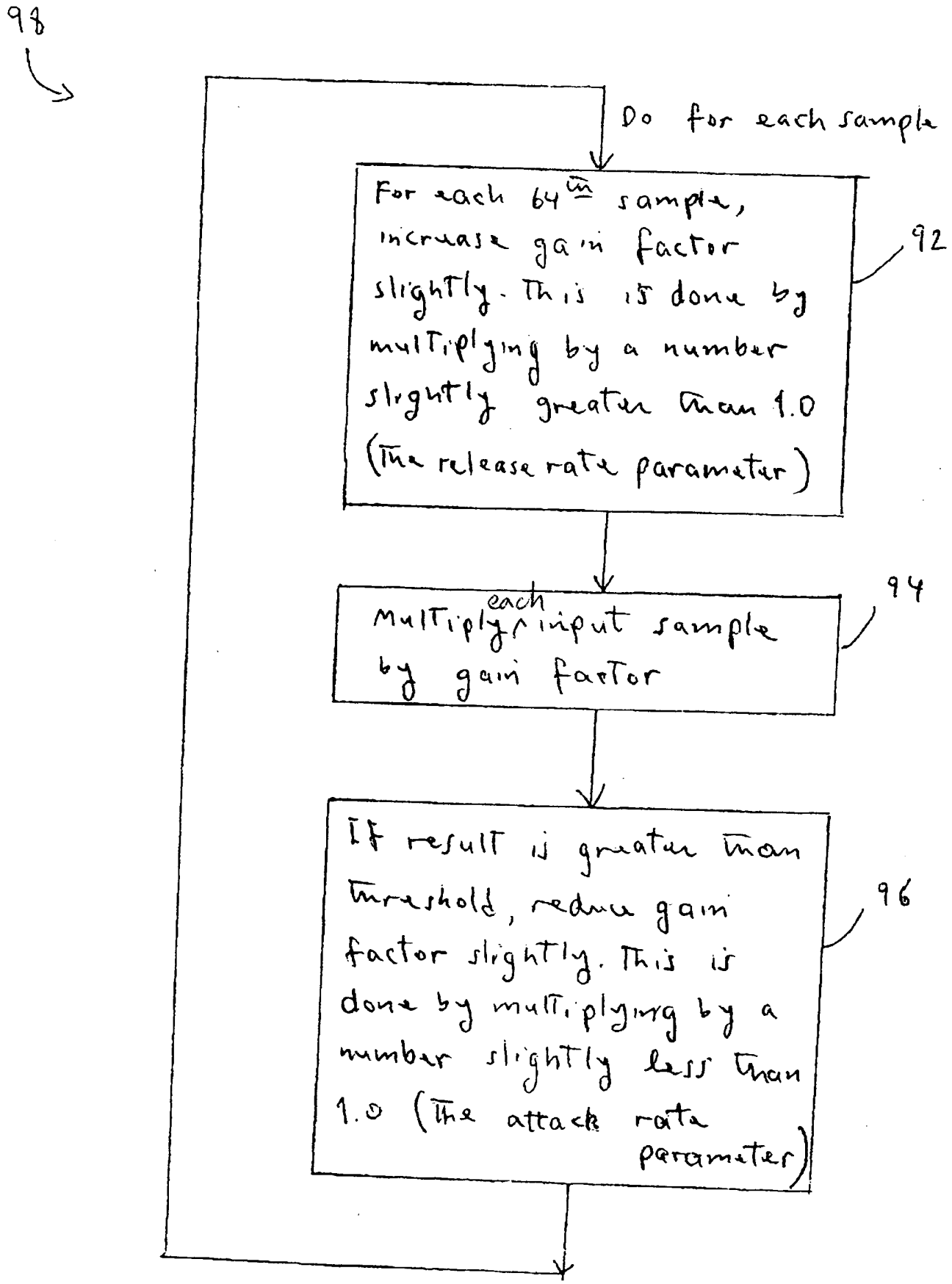
98
Do for each sample
For each 64th sample, increase gain factor slightly. This is done by multiplying by a number slightly greater than 1.0 (the release rate parameter)
92
Multiply each input sample by gain factor
94
If result is greater than threshold, reduce gain factor slightly. This is done by multiplying by a number slightly less than 1.0 (the attack rate parameter)
96

Fig. 4

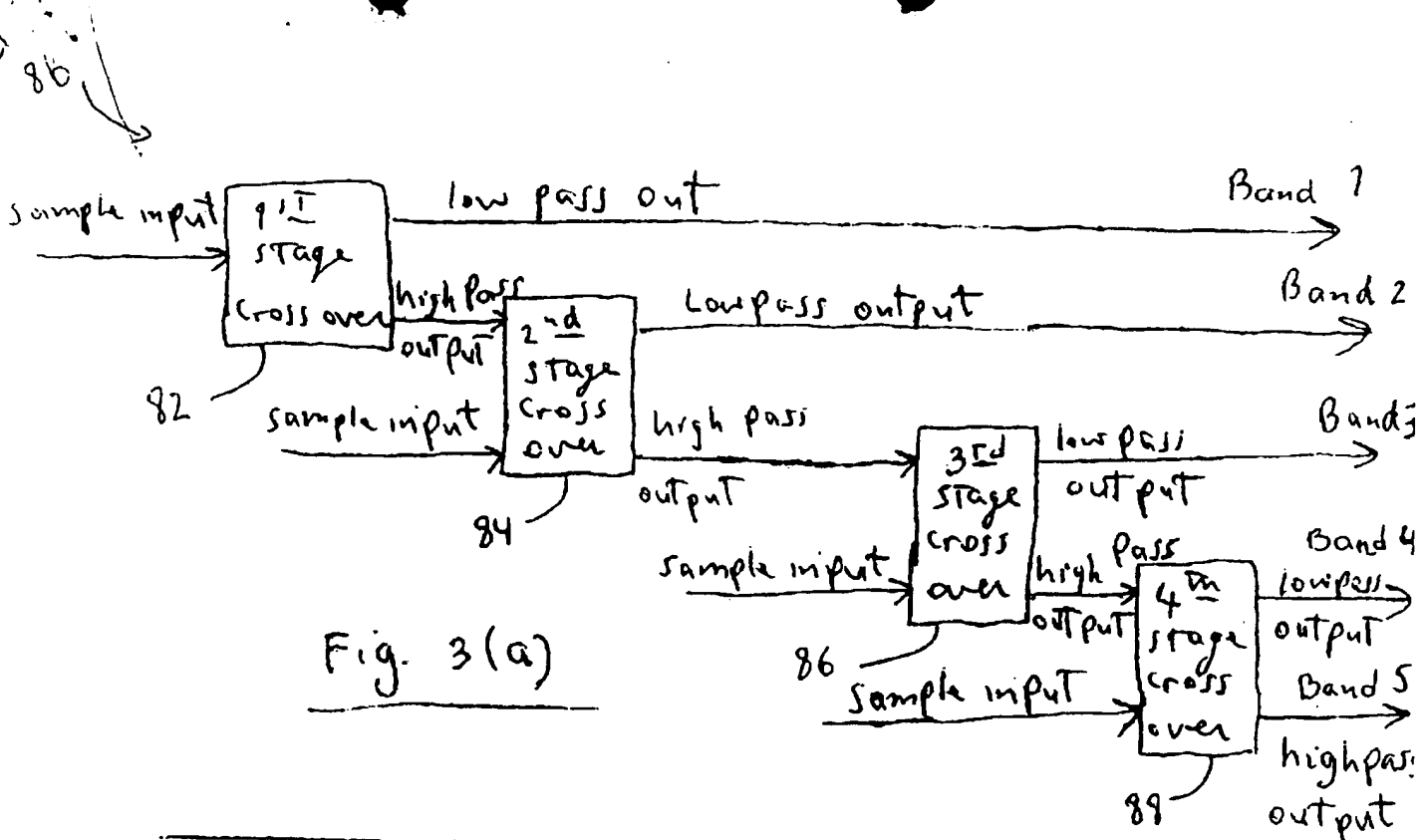
86
Sample input
1st stage cross over
low pass out
Band 1
high pass output
2nd stage cross over
Low pass output
Band 2
82
sample input
high pass output
3rd stage cross over
low pass output
Band 3
84
sample input
high pass output
4th stage cross over
Band 4 low pass output
Band 5 high pass output
86
Sample input
88

Fig. 3(a)

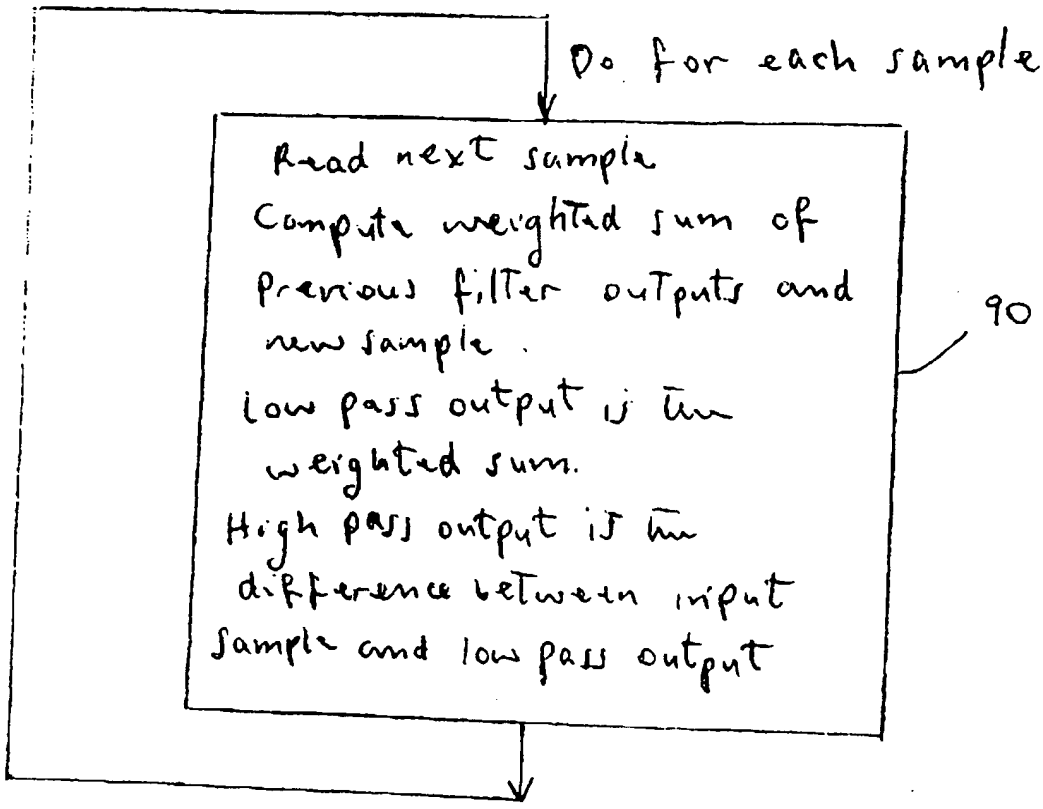
Do for each sample
Read next sample
Compute weighted sum of previous filter outputs and new sample.
low pass output is the weighted sum.
High pass output is the difference between input sample and low pass output
90

Fig 3(b)

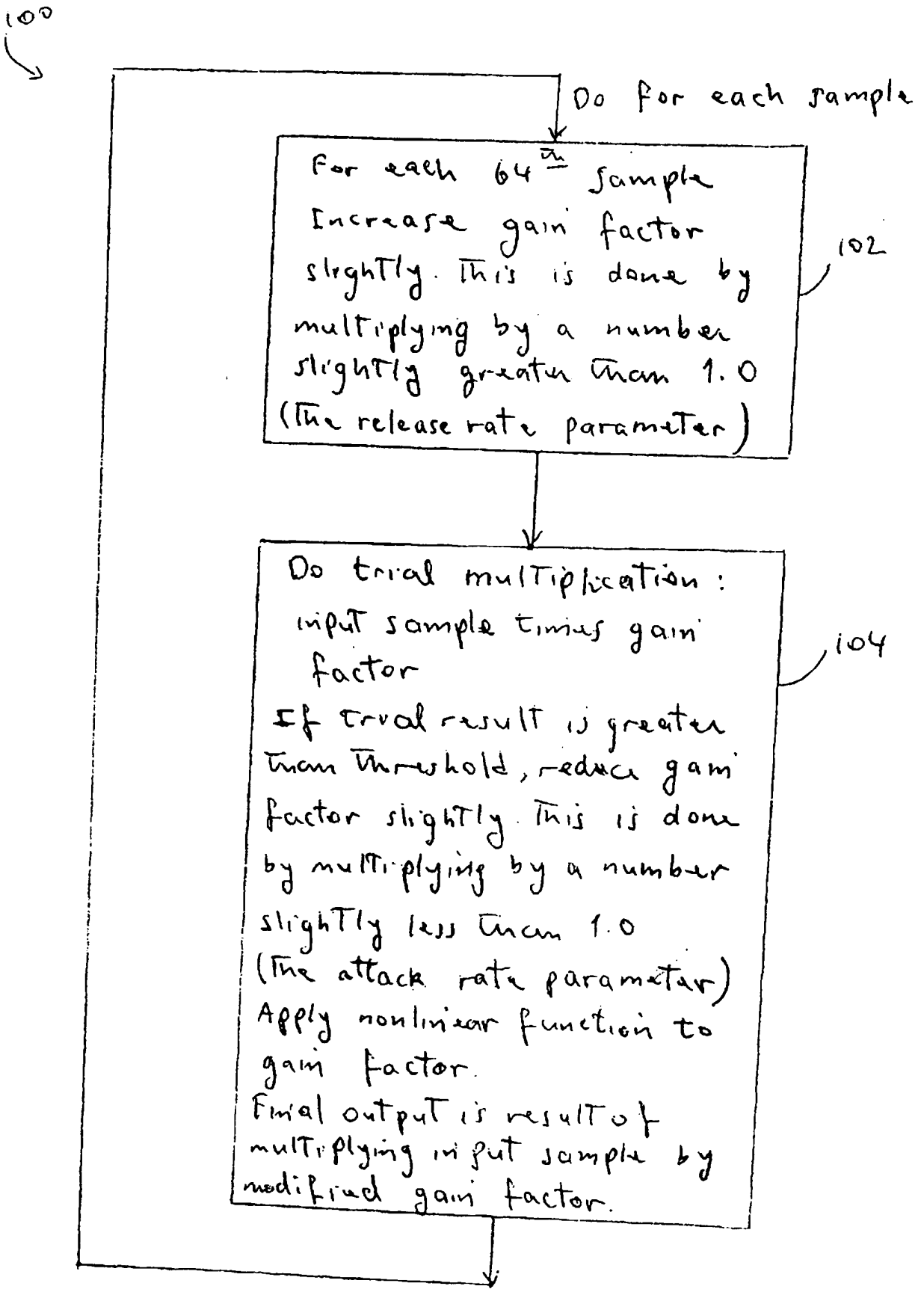
100
Do for each sample
For each 64th sample
Increase gain factor slightly. This is done by multiplying by a number slightly greater than 1.0 (The release rate parameter)
102
Do trial multiplication: input sample times gain factor
If trial result is greater than threshold, reduce gain factor slightly. This is done by multiplying by a number slightly less than 1.0 (The attack rate parameter)
Apply nonlinear function to gain factor.
Final output is result of multiplying input sample by modified gain factor.
104

Fig. 5

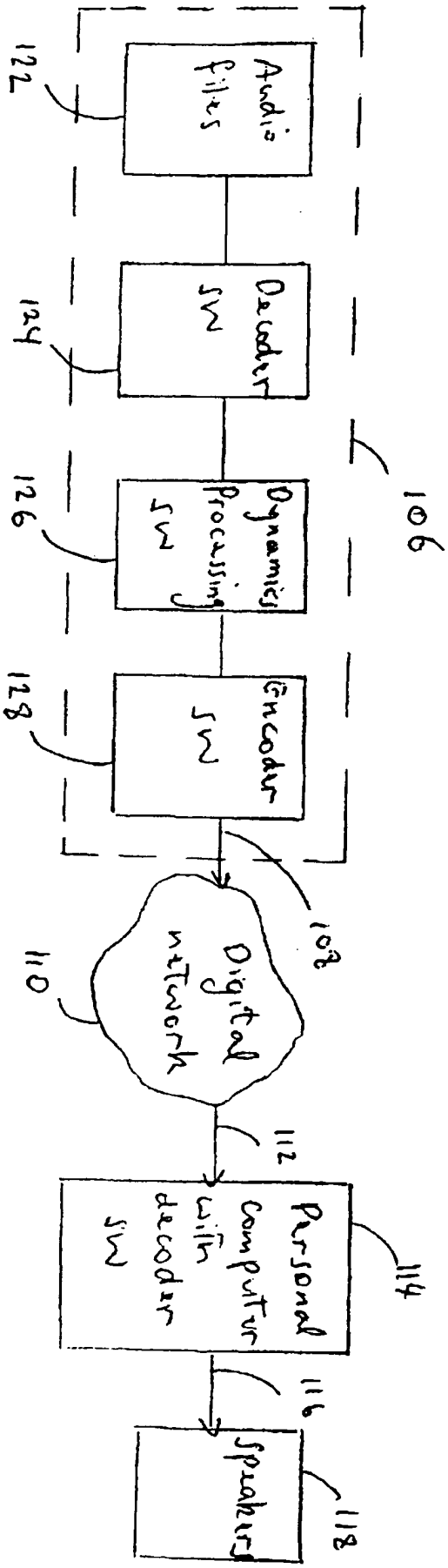
120
Audio Filters
122
Decoder SW
124
Dynamics Processing SW
126
Encoder SW
128
106
108
Digital network
110
112
Personal computer with decoder SW
114
116
Speakers
118

Fig. 6

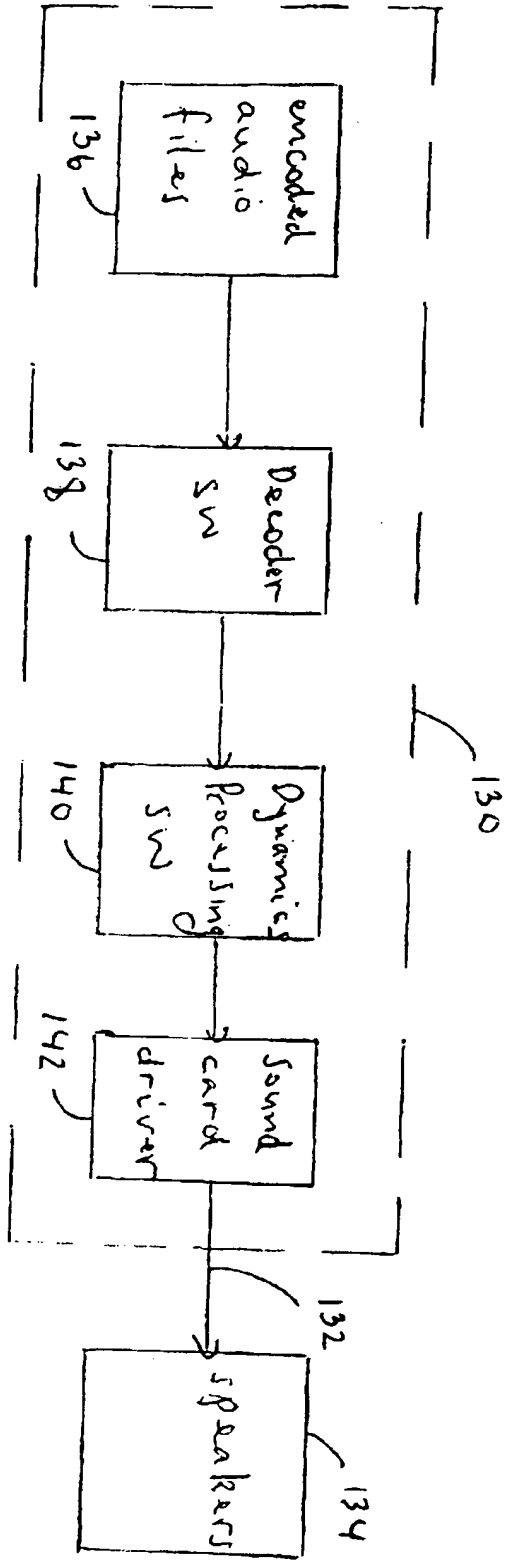
encoded audio files
136
Decoder SW
138
Dynamics Processing SW
140
Sound card driver
142
130
132
speakers
134

Fig. 7

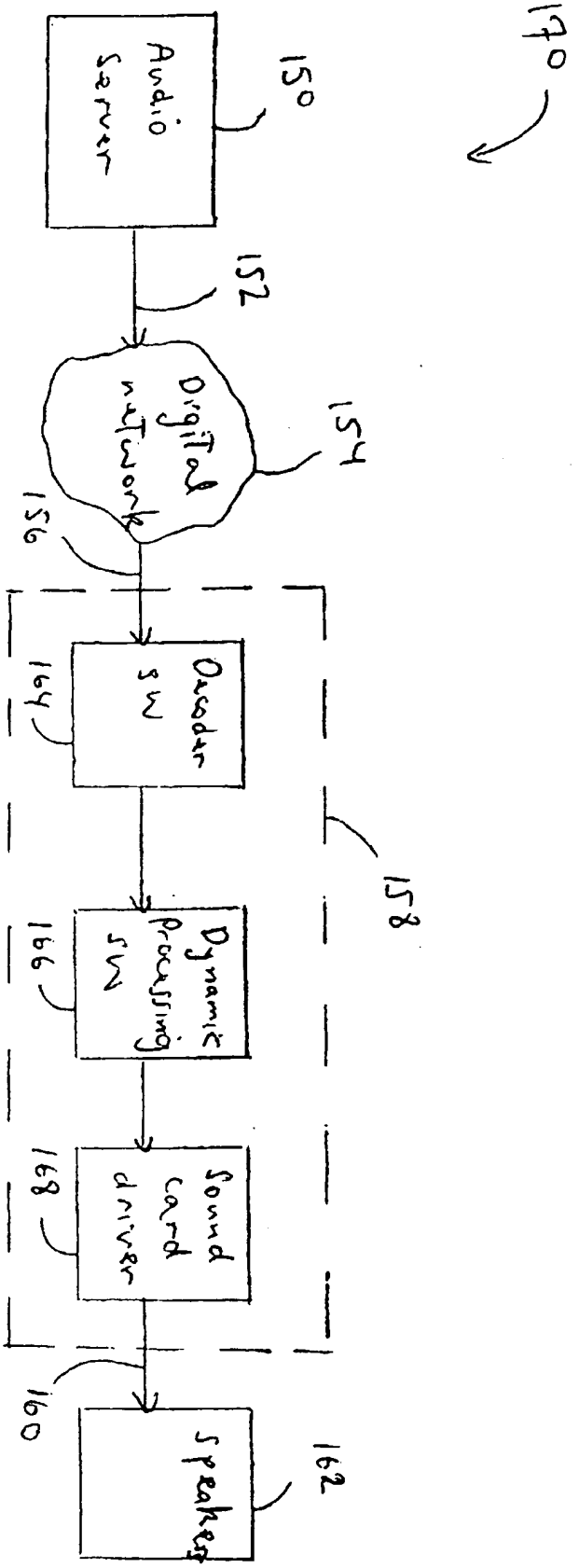
170
Audio Server
150
152
Digital network
154
156
Decoder SW
164
158
Dynamic processing SW
166
Sound card driver
168
160
Speaker
162

Fig. 8